



BULLETIN

Volume 9, Issue 2

Providing for Michigan's Safety in the Built Environment

February 2004

BCCFS Bulletin

This will be the last mass mailing of the Bulletin.

DIRECTOR'S COLUMN

Henry L. Green

Welcome Fire Service

I would like to offer my personal welcome to members of the fire service to the Bureau of Construction Codes and Fire Safety. On December 17, 2003 Executive Order 18 issued by Governor Granholm became effective. Programs from the Office of the State Fire Marshal were transferred to the Department of Labor and Economic Growth.

The combination of the Michigan Fire Fighters Training Council, the National Fire Incident Reporting System, Fire Works regulations, the Public Fire Education program and the Office of the State Fire Marshal with current BCCFS programs strengthens the infrastructure in place to provide a safe built environment for Michigan's citizens.

The consolidation of these programs will provide more uniformity in the application of standards. Combining these programs will increase the level of safety in places of public assembly. Assistance to local communities may now come in the form of both fire inspectors and construction code inspectors. This concept is also true for such occupancies as Hospitals, nursing homes, adult foster care facilities and day care centers.

More consistent enforcement of construction regulations and fire safety provisions in both new and existing buildings will result in safer buildings, and a potential for cost savings to both

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To reduce the state's financial burden and better serve our customers the bulletin will be available to you on the BCCFS web site: www.michigan.gov/bccfs or via e-mail.

If you wish to have the bulletin e-mailed to you please send your e-mail address to: dbarme@michigan.gov.

In the event you do not have access to either e-mail or the web site, and wish to continue to have the bulletin mailed to you, please forward your name and the address where you wish to receive the bulletin to: Dianne Barmes, Bureau of Construction Codes and Fire Safety, P.O. Box 30254 Lansing, Michigan 48909.

The Energy Code for Commercial Structures

*by Todd Cordill, Asst. Chief
Plan Review Division*

On March 13, 2003, new Energy Code Rules took effect for commercial (non-residential) structures. The standard that took effect is the ANSI/ASHRAE/IESNA Standard 90.1-1999. This standard is consistent with the current Federal Energy Policy Act. Per Public Act 230 of 1972, (The Stille-DeRossett-Hale Single State Construction Code Act) the energy code is applicable throughout the State of Michigan. The standard provides minimum energy-efficiency requirements for the design and construction of new buildings and their systems as well as new systems and equipment in existing buildings.

The compliance requirements of the code apply to both new and existing structures. For existing buildings there are specific requirements for the following project scopes: building envelope alterations; heating, ventilating and air-conditioning alterations; service water heating alterations; power alterations; and lighting alterations. Compliance documents shall be submitted for review (by the building official) as part of the plan review and/or permit application documents. Specific materials and equipment shall be labeled for compliance with the standards of the energy code. However, alternative materials, methods of construction, and design are allowed under the code. Evaluations of such alternatives shall be performed per the specific provisions of the code. The main prescriptive categories of the energy code that shall be met are: building envelope; heating, ventilating, and air-conditioning; service water heating; power; and lighting. The Energy Cost Budget Method is an alternative method of compliance to the above-mentioned prescriptive provisions. The calculations needed for this method are outlined in the standard.

Not all buildings or structures need to comply with the previously mentioned standards. The ANSI/ASHRAE/IESNA Standard 90.1-1999 does not apply to single-family houses, multi-family structures of three stories or fewer above grade, mobile homes, and manufactured homes. It also does not apply to buildings that do not use electricity or fossil fuel; and equipment and portions of building systems that use energy primarily for industrial, manufacturing, or commercial processes.

Questions may be directed to the Plan Review Division at 517/241-9328.

Director's Column, continued...

owners and the communities. The standards will be more effective in assuring safety in the renovation and rehabilitation of existing buildings.

Through the consistent application of standards that embrace the on-going occupancy of buildings and structures along with the coordinated training efforts that include elements of both fire and building safety, Michigan built environment will be best served. Inclusion of programs previously housed in the Office of the State Fire Marshal will assist in the success of the consolidated fire safety and construction code programs.

Combining training efforts for fire fighters and construction code inspectors will only serve to make fire fighters more familiar with construction techniques and operations of systems before an emergency response is required. Code inspectors will be offered an understanding of emergency response techniques and operations that are impacted by building systems.

By working together, we can strengthen our primary goal, Providing for Michigan's Safety in the Built Environment.

Advisory on Potable Water Supply Approval

*by Michael Evans, Assistant Chief
Plumbing Division*

Building code officials are advised to obtain evidence of onsite potable water source approval from county or district health departments before issuing certificates of occupancy. A written (or electronic) certificate of approval from the local health agency is recommended to show that the provisions of Section 602.1 of the state plumbing code have been satisfied.

The Michigan Water Well Construction and Pump Installation Code, which is implemented by Department of Environmental Quality (DEQ) through local health agencies, requires that new household wells be free of coliform bacteria before the water system is placed into service. Officials from the Department of Labor & Economic Growth, (DLEG), Bureau of Construction Codes and Fire Safety; DEQ Water Division; and the Michigan Association of Local Environmental Health Administrators (MALEHA) discussed how better communication between the local health departments and local building officials could improve compliance with water sampling requirements for new wells and enhance public health protection.

Some health departments and building code officials have already addressed this issue making water supply approval a prerequisite for obtaining an occupancy permit. The responsibility for sampling the well water falls upon the well owner or the owner's designated agent. However, some well drilling contractors collect samples as part of their well installation package and make these available to county health departments. As part of the permitting process, the health department collects all water samples and inspects each water system. Some health departments lack an efficient means of tracking permits to verify that each new well is tested, resulting in individuals occupying their new home without the water tested and consuming water that could make them ill.

Statewide data from the DEQ Laboratory Section for 2003 shows that about 20% of initial samples from new private wells are positive for coliform bacteria and about 0.3% are positive for E. coli organisms.

This rate of positive samples reinforces the importance of ensuring that potable water is provided to building occupants. Incorporating water supply approval into the building occupancy permit procedure is an effective means of protecting public health and safety. DLEG, DEQ, and MALEHA officials will continue to explore means of streamlining the water supply approval process. A goal will be to develop a uniform inspection tag to be posted at the building site by local health department officials.

Electrical Inspection Practices

*by Stella Morris, Chief
Electrical Division*

The Electrical Division regularly receives calls from contractors and homeowners regarding citations of violations.

Rule 90-31 in Part 8 of the 1999 Michigan Electrical Code states, "If it is found that any electrical equipment does not conform to the provisions of the code, then the enforcing agency shall notify, in writing, the person who installs, or who is responsible for installing, the electrical equipment, in accordance with section 12(3) of 1972 PA 230, MCL §125.1512(3), of the defect, misuse, or violation. Violations and penalties shall be as specified in section 23 of the act." (Emphasis added)

Plainly stated, a violation is not a violation unless it is in writing and the corresponding code section cited. There are those who cite the code properly, and there are those who make up their own rules. Enforcement of rules that do not exist compromises the integrity of all inspectors.

It is the inspector's responsibility to use fairness and good judgment, consistency, and a common sense approach in evaluating electrical installations and applying the code. The code interpretation should reflect the purpose of the code in "...the practical safeguarding of persons and property from hazards arising from the use of electricity."

As an electrical inspector it should be an honor – as well as a duty – to be professional in both conduct and application of the code.

The *BULLETIN* is a quarterly publication of the Bureau of Construction Codes & Fire Safety within the Michigan Department of Labor & Economic Growth.

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**Providing for
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Fire Inspector Certification and Continuing Education

by Scott D. Fisher, Director
Office of Local Government and Consumer Services

As a result of the consolidation of the Office of Fire Safety and the Bureau of Construction Codes, the responsibilities for maintaining the Fire Inspector Certification/Re-Certification Program and the Continuing Education Program have been placed in the Office of Local Government and Consumer Services, (OLGCS). Although these are new responsibilities for our staff, inspector registration and continuing education programs are not unfamiliar to us. OLGCS staff has been responsible for the registration and continuing education programs of Code Official's since 1997.

As with any consolidation of like program responsibilities, certain procedural and process changes must occur to enhance the quality of service to the customer. Staff has reviewed the Code Official Registration Program and the Certified Fire Inspector Program and the educational component of both to determine how to better serve all registered and certified inspectors. Although there are a number of changes that may occur in the future, the changes that have immediate effect are outlined below.

Continuing Education Program Rosters All program rosters are to be submitted to the Office of Local Government and Consumer Services at P.O. Box 30222, Lansing, Michigan 48909, within 10 days of the completion of the program.

The program instructor or provider is responsible for the submission of the roster. Although the program instructor or provider is responsible for submitting rosters, all inspectors are encouraged to keep their own record of course participation. This practice will assist us should a question regarding CEU's arise.

The instructor should make sure that the program roster contains the name, and registration or certification number of every participant. Each program roster should be signed and dated by the instructor.

Instructors of programs for Fire Inspectors were using different rosters than those conducting programs for Code Officials. Staff has developed a single

roster that may be utilized by all instructors regardless of the type of program they conduct. If you are a program instructor and you do not have rosters that reflect both Fire Safety and Code Official programs, you may obtain a copy of the updated roster by going to the Bureau's website at www.michigan.gov/bccfs or by contacting our office at (517) 241-9347.

Expiration of Fire Inspector Certifications All Fire Inspector Certifications that expire after January 1, 2004, will be reissued with an expiration date of September 17, 2006. This expiration date is consistent with the expiration date of all Code Official registrations. All certifications that expire after September 17, 2006, will be reissued to coincide with the expiration date of the subsequent registration cycle. Due to the change in the expiration date of Fire Inspector certifications, the number of continuing education hours for Certified Fire Inspectors will be pro-rated based on the number of months the certification is issued for.

If you have any questions, please contact our office at (517) 241-9347.

Inspector Training Program Review

by Dan Dykstra
Office of Fire Safety

The BCCFS has provided intensive inspector training programs twice annually at Higgin's Lake for Building, Electrical, Mechanical, and Plumbing disciplines, which are intended to assist inspectors, plan reviewers, and code officials in achieving their continuing education requirements. In an effort to provide more variety in course offerings, and improve service to our customers, we are currently in the process of reviewing and, where necessary, revising these training programs.

To assist us with this project, we are asking for your input. Please take a minute to complete the training programs customer survey form posted on our web site at www.michigan.gov/bccfs and return it to our office. Your input will be used to evaluate the effectiveness of our current programs, as well as to develop future program offerings.

Registration of Boilers with the National Board of Boiler and Pressure Vessel Inspectors

by Robert J. Aben, Jr., Chief
Boiler Division

In addition to the requirement for ASME stamping on boilers, Michigan Boiler rules require all boilers except cast iron sectional boilers to be registered with the National Board of Boiler and Pressure Vessel Inspectors in accordance with rule 408.4026 (2). This registration assures the State of Michigan that a properly qualified inspector has inspected a boiler during its construction to assure compliance with the construction code.

The State of Michigan permit application for installation of a boiler requires the licensee to provide the National Board Number on the permit. Section 17 of the boiler law and R 408.4033 of the rules further require the permit be secured before the installation may begin.

The intent of requiring the National Board Number on the permit application is to assure boilers not in compliance with the construction requirements of the boiler law and rules are not installed in Michigan. It is also an attempt to reduce the financial burden on an owner when a boiler is ordered out for non-compliance. ASME stamping and National Board registration cannot be accomplished after a boiler has left the manufacturer's shop.

The bureau has experienced occasions when a licensee holds a permit application until receipt of the boiler in order to get the National Board Number from the boiler to record on the permit. This causes a delay in the installation of the boiler. An alternate approach would be to submit the permit with an explanation that the National Board Number will be provided when the boiler is received. The Boiler Division will issue a permit number and distribute the permit to the licensee and the state inspector. However, the installation will not be approved until the National Board Number is recorded. The licensee is cautioned to assure that the boiler being ordered for the job carries the appropriate ASME stamping and if required by the boiler rules, is registered with the National Board of Boiler and Pressure Vessel Inspectors.

Questions may be directed to the Boiler Division at 517/241-9334.

Existing Installations vs. Additions, Alterations or Repairs

by *Tennison B. Barry, Chief Mechanical Division*

There has been confusion regarding Section 102.2 Existing installations and Section 102.4 Additions, alterations or repairs. The question is: at what point do all portions of an installation have to comply with current codes? In order to determine that point we must take a look at the code and its intent.

102.2 Existing installations. Except as otherwise stated in this chapter, a provision in this code shall not require the removal, alteration, or abandonment of, nor prevent the continued utilization and maintenance of, a mechanical system lawfully in existence at the time of the adoption of this code.

Section 102.2 does not intend to require the entire HVAC system be replaced when only a portion of the system is in need of replacement (the furnace). In most cases, this is not an issue. However, when a furnace, which serves more than one dwelling unit, is replaced the intent of Section 102.2 is an issue. The key words in this section are **lawfully in existence**. An existing system is generally considered to be "grandfathered" with code adoption, provided the system met the code at the time of its original construction. That is what the phrase lawfully in existence refers to. An example would be: a furnace was installed and approved in a single family home in 1999. In 2002, the home was converted to three dwelling units. In 2003 the furnace needed to be replaced. When replacing the furnace the new configuration of the home would have to be considered. That would mean neither the furnace nor the duct system could service all three units. The reason is the HVAC system, as it existed in 2003, was not **lawfully in existence**. It had not been inspected and approved to serve three separate dwelling units as section 403.2.1 of the 1996 mechanical code, (which would have been in effect) would not allow such an installation. However, the same home built under a code that allowed one furnace to serve all three units could replace the furnace with a single unit.

102.4 Additions, alterations or repairs. Additions, alterations,

renovations or repairs to a mechanical system shall conform to that required for a new mechanical system without requiring the existing mechanical system to comply with all of the requirements of this code. Additions, alterations or repairs shall not cause an existing mechanical system to become unsafe, hazardous or overloaded.

Minor additions, alterations, renovations and repairs to existing mechanical systems shall meet the provisions for new construction, unless such work is done in the same manner and arrangement as was in the existing system, is not hazardous and is approved.

Alterations or additions to an existing system involve some extent of new work and such new work is subject to the requirements of the code. Additions or alterations can place additional loads or different demands on an existing system and such loads or demands could necessitate changing all or part of the existing system. Additions and alterations must not cause an existing system to be any less in compliance with the code than it was before the changes.

In conclusion, the difference between sections 102.3 and 102.4 is section 102.3 refers to the replacement of equipment or system where as section 102.4 is talking about the addition to or the alteration of the system.

If you have any questions you may contact me at 517-241-9325

State offices will be closed in observance of the following holidays:

May 31 - Memorial Day
July 5 - Independence Day



Plumbing Code Changes, Apprentice Registration License Training

by *Robert G. Konyndyk, Chief Plumbing Division*

The Bureau has again updated the plumbing code to the most recent edition as required by the Stille-DeRossett-Hale Single Construction Code Act. The 2003 Michigan Plumbing Code became effective December 31, 2003. The Plumbing Division will update the licensing tests to use the 2003 edition beginning in September 2004. The State Plumbing Board has always allowed instructors and apprenticeship programs two examinations to make the changes in their programs.

Contractors and Master plumbers shall ensure their apprentices are registered promptly as required by Section 27 of the State Plumbing Act, 2002 PA 733 (the act). The act states an apprentice shall register within 30 days after employment. Future acceptance for journey examination will rely on the original date of apprentice registration. Holding a past registration before the March 31, 2003, does not qualify for the new act requirements. Apprentices changing employers are NOT required to fill out a new registration processing form.

Section 23 (2) and 25 (2) of the act requires journey and master plumbers to complete a code update class within one year following the code change. At the December 2, 2003, meeting the board clarified that these classes shall be at least 5 hours in length. The board and division shall approve instructors and classes. Application forms will be on the bureau web site in the near future.

Questions may be directed to the Plumbing Division, 517/241-9330.

Scheduled Board Meetings and License Exams

For a schedule of Board meetings and/or licensing exams please visit the Bureau web site at www.michigan.gov/bccfs.

Alcohol-based Waterless Hand Sanitizer Gels in Healthcare The Office of Fire Safety Provides Guidance on a Slippery Issue

by Pier-George Zanoni
Office of Fire Safety

In October 2002, when the CDC released their initial endorsement of alcohol hand sanitizer, the healthcare community responded enthusiastically. This was to be expected since the hand gels provide a superior solution to several issues surrounding hand hygiene. Traditional hand washing with soap and water is more time consuming and may lead to dermatitis because it dries out the skin. The CDC report concludes that these hand gels are effective sanitizers provided the hands are not soiled (i.e. have organic load).

Alcohol-based hand sanitizers have been in use in Europe for over 30 years. With conveniently located hand gel dispensers, healthcare facilities in the United States have seen an increase in compliance with hand sanitation. The healthcare worker can easily squirt a dab of gel and rub their hands between patients while going from one room to another.

So what is the big rub with hand gels? Unfortunately, to be effective as a sanitizer, the alcohol rubs must contain at least 60% alcohol, which is considered a Class I Flammable Liquid with a flashpoint of approximately 75 degrees F. Thus, the use of these products creates new risks for fire. Perhaps the single most controversial issue is the placement of these dispensers in the exit corridors outside patient bedrooms. Many healthcare facilities throughout the United States have already mounted their new alcohol-based hand sanitizer dispenser in the corridors. In light of this conflict, the CDC published an update in September 2003 that clarifies the fire safety concerns when using the product. The Joint Commission for the Accreditation of Healthcare facilities (JCAHO) also has gone on record both in supporting the use of these hand sanitizers and cautioning proper use in compliance with State & Local fire safety requirements.

Since this practice is in violation of the NFPA 101 Life Safety Code, the Office of Fire Safety took quick action to publish a policy on October 10, 2002 prohibiting

placement of alcohol gel dispensers in the corridor and providing additional guidance on storage and placement of the product. Valuable information regarding the fire safety of these hand sanitizers may be found under Publications on the Bureau of Construction Codes & Fire Safety web site.

See: **Policy 2-25, Alcohol Based Waterless Hand Sanitizing Cleaner**

http://www.mi.gov/cis/0,1607,7-154-10575_17573-55731—,00.html

Alcohol-Based Waterless Hand Sanitizing Liquid Updated with Questions & Answers 12-12-02

http://www.mi.gov/cis/0,1607,7-154-10575_17573-55727—,00.html

Foam Insulation in Crawlspaces and Attics and Alternative Approvals

by Larry Lehman, Chief
Building Division

Many questions have been raised relative to the use of rigid foam insulation in crawl spaces and attics perhaps because of the focus on only subsection R318.2.3 of Section R318 Foam Plastic in the Michigan Residential Code (MRC). It is true that it states under section R318.2.3(MRC) Attics and Crawlspaces, that a specified and approved thermal barrier is required over foam plastics in these areas of the home. R104.11 (MRC), Alternative materials, design, and methods of construction and equipment, provides the basis for alternative approvals of prescriptive code requirements such as National Evaluation Reports (NER) issued by the International Code Council utilizing their legacy reports. This format allows manufacturers to submit independent testing and data such as approved fire tests to receive an alternative method of approval of those prescribed by the code. National Evaluation Reports including Legacy Reports should be accepted and approved by a local enforcing agency when they are applied to specific conditions and the installation complies with the conditions of use and codes outlined within the approval report.

As an example, one product, STYROFOAM brand insulation has been independently tested in accordance with approved test methods and has received

approvals from all three of the legacy code organizations: BOCA, ICBO, and SBCCI. The following reports from these legacy code organizations provides the basis for STYROFOAM brand insulation to be used uncovered inside crawl space walls and gable end attics: BOCA Research Report 2120, ICBO Evaluation Report ER-2257, and SBCCI Evaluation Report 9576C. Dow has recently applied for a new National Evaluation Services Report that will cover both the IRC and IBC and should be available by mid-March 2004. For further information visit the ICC website at www.iccsafe.org or call the customer information group at Dow at 1-866-583-2583 or visit their web site at www.dowbuildingmaterials.com.

Elevator Examination Applicants

by Calvin W. Rogler, Chief
Elevator Safety Division

Journeyperson, Contractor, and Certificate of Competency examinations all use the open book format. Examinations are comprised of questions obtained from many applicable technical documents. A listing of these documents is included within the examination packet. Requirements for the new open book examinations are as follows and pertain to all code books brought to the examination site.:

- Sharing of codebooks is not permitted. Each examinee is responsible for supplying codebooks needed for the examination.

- Codebooks will be checked before and after each examination session by proctors to assure the integrity of the examination is not compromised.

- Codebooks may contain index tabs. No markings will be permitted within the codebook including highlighting, underlining, text aids, margin notes or other notations.

- Extra paper, notes, or programmable calculators are not permitted in the examination site. Silent, non-printing calculators and a 1/4" scale rule are permitted. Each applicant should bring at least two sharpened #2 pencils.

Violations of examination site rules will result in the surrendering of the examination, the examination will not be scored, the applicant will be asked to leave the examination site, and is considered as failing the examination.

How to Contact the Bureau of Construction Codes & Fire Safety

Mailing & Physical Addresses, Fax Numbers, Web Site Address, Telephone Numbers

Mailing Addresses:

P.O. Box 30254 (Codes: general correspondence)
P.O. Box 30255 (Codes: permits, licenses, and other documents containing payment)
P.O. Box 30700 (Office of Fire Safety)
P.O. Box 30704 (Office of Land Survey and Remonumentation)
P.O. Box 30222 (Office of Local Government and Consumer Services)
Lansing, Michigan 48909

Physical Addresses:

2501 Woodlake Circle, Okemos (Administration; Office of Administrative Services; Office of Management Services; Boiler Division; Building Division; Electrical Division; Elevator Safety Division; Mechanical Division; Plan Review Division; and Plumbing Division)
7150 Harris Drive, Lansing (Fire Fighters Training Council; Office of the State Fire Marshal; and Office of Fire Safety)
6546 Mercantile Way, Lansing (Office of Local Government and Consumer Services; and Office of Land Survey and Remonumentation)

Fax Numbers:

Administration - (517) 241-9570
Codes - (517) 241-9308
Fire Fighters Training Council - (517) 322-6540
Office of Fire Safety - (517) 322-1356
Office of Land Survey and Remonumentation - (517) 241-6301
Office of Local Government and Consumer Services - (517) 241-6371
Office of the State Fire Marshal - (517) 322-2908

Web site: www.michigan.gov/bccfs

Telephone Numbers:

Administration	517/241-9302
Office of Administrative Services (OAS)	517/335-2972
Office of Management Services (OMS)	517/241-9313
Boiler Division	517/241-9334
Building Division	517/241-9317
Electrical Division	517/241-9320
Elevator Safety Division	517/241-9337
Fire Fighters Training Council	517/322-5444
Mechanical Division	517/241-9325
Office of Fire Safety (OFS)	517/322-1123
Office of Local Government and Consumer Services (OLGCS)	517/241-9347
Office of Land Survey and Remonumentation (OLSR)	517/241-6300
Office of the State Fire Marshal	517/322-1924
Plan Review Division	517/241-9328
Plumbing Division	517/241-9330

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